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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,139	10/06/2003	Shunpei Yamazaki	740756-2659	9428
22204	7590	12/22/2004	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			LEBENTRITT, MICHAEL	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/678,139

Applicant(s)

YAMAZAKI ET AL.

Examiner

Michael S. Lebentritt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Preliminary Amendment filed 10/6/03.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7-28 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 08536, 977  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/6/03.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☒ Other: SEE SERIAL

## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statement (IDS) submitted on 10/06/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

### *Double Patenting*

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 7-11 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-5 of prior U.S. Patent No. 5,789,284. This is a double patenting rejection.

'284 claims:

providing an amorphous semiconductor film with a metal element which promotes crystallization of said semiconductor film;

crystallizing said amorphous semiconductor film by heat treatment to obtain a crystalline semiconductor film;

forming a metal element diffusion film comprising a semiconductor in contact with said crystalline semiconductor film;

diffusing said metal element into said metal element diffusion film; and

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removing said metal element diffusion film into which said metal element has been diffused.

2. The method of claim 1 wherein said metal element diffusion film is an amorphous silicon film.

3. The method of claim 1 wherein said metal element diffusion film is a polycrystalline silicon film.

4. The method of claim 1 wherein said metal element diffusion film is an amorphous  $\text{Si}_{\text{sub}.x}\text{Ge}_{\text{sub}.1-x}$ , film where  $0 < x < 1$ .

5. The method of claim 1 wherein one or a plurality of elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, and Au are used as said metal element.

Claims 22-26 and 28 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 6-10 of prior U.S. Patent No. 5,789,284. This is a double patenting rejection.

'284 claims:

providing an amorphous semiconductor film with a metal element which promotes crystallization of said semiconductor film;

crystallizing said amorphous semiconductor film by heat treatment to obtain a crystalline semiconductor film;

forming an oxide film in contact with said crystalline semiconductor film;

forming a metal element diffusion film comprising a semiconductor in contact with said oxide film;

diffusing said metal element into said metal element diffusion film; and

removing said metal element diffusion film into which said metal element has been diffused, using said oxide film as an etching stopper.

7. The method of claim 6 wherein said metal element diffusion film is an amorphous silicon film.

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8. The method of claim 6 wherein said metal element diffusion film is a polycrystalline silicon film.

9. The method of claim 6 wherein said metal element diffusion film is an amorphous  $\text{Si.sub.x Ge.sub.1-x}$  film where  $0 < x < 1$ .

10. The method of claim 6 wherein one or a plurality of elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, and Au are used as said metal element.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 12-21 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S.

Patent No. 5,789,284. Although the conflicting claims are not identical, they are not patentably distinct from each other because similar subject matter is claimed.

'284 fails to claim: "providing a selected portion of an amorphous semiconductor film with a metal element..." Examiner takes official notice that it is well known in the art to provide predetermined or selected portions of an amorphous silicon film with a metal element depending upon the concentration profile of the metal element desired.

'284 fails to claim "diffusing the metal element from the crystallized semiconductor film into the metal element diffusion film by irradiating the crystallized semiconductor film with [a] laser". Examiner takes official notice that it is well known in the art to heat a semiconductor film by laser to diffuse said metal element.

'284 fails to claim wherein said etch stopper film comprises silicon nitride. Examiner takes official notice that is well known in the art to form an etch stopper film that comprises silicon nitride.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Lebentritt whose telephone number is 571-272-1873. The examiner can normally be reached on 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael S. Lebentritt

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Primary Examiner  
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